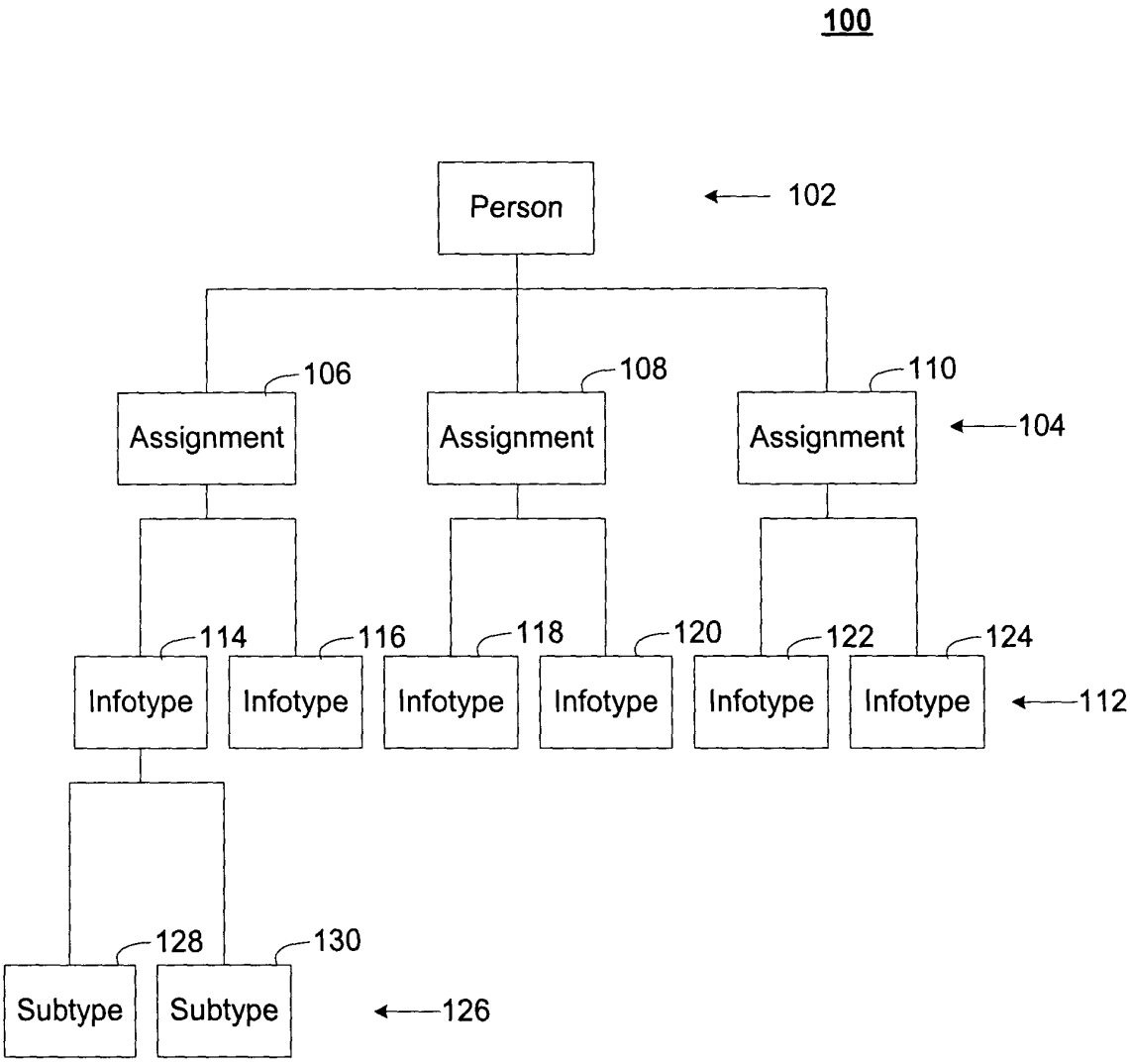
100
Person
102
106
108
110
Assignment
Assignment
Assignment
104
114
116
118
120
122
124
Infotype
Infotype
Infotype
Infotype
Infotype
Infotype
112
128
130
Subtype
Subtype
126

FIG. 1

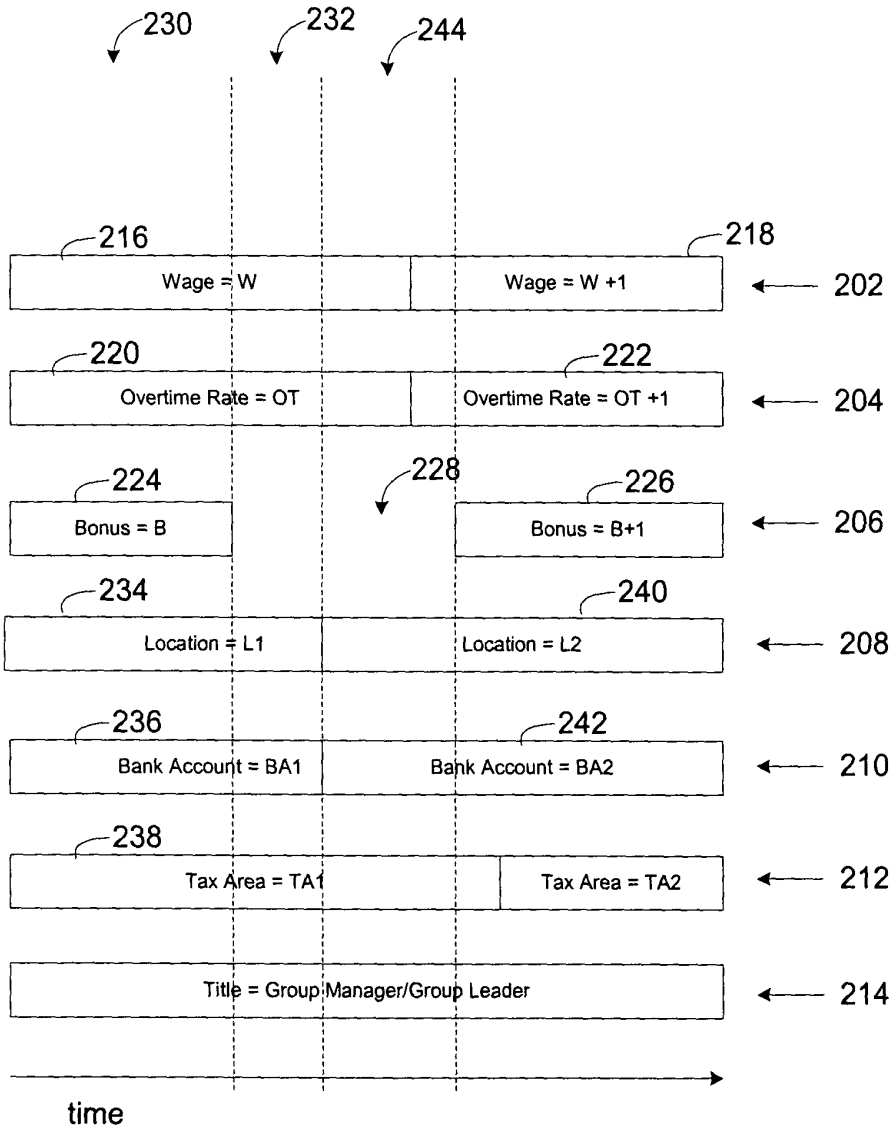
230
232
244
216
218
Wage = W
Wage = W +1
202
220
222
Overtime Rate = OT
Overtime Rate = OT +1
204
224
228
226
Bonus = B
Bonus = B+1
206
234
240
Location = L1
Location = L2
208
236
242
Bank Account = BA1
Bank Account = BA2
210
238
Tax Area = TA1
Tax Area = TA2
212
Title = Group Manager/Group Leader
214
time

FIG. 2

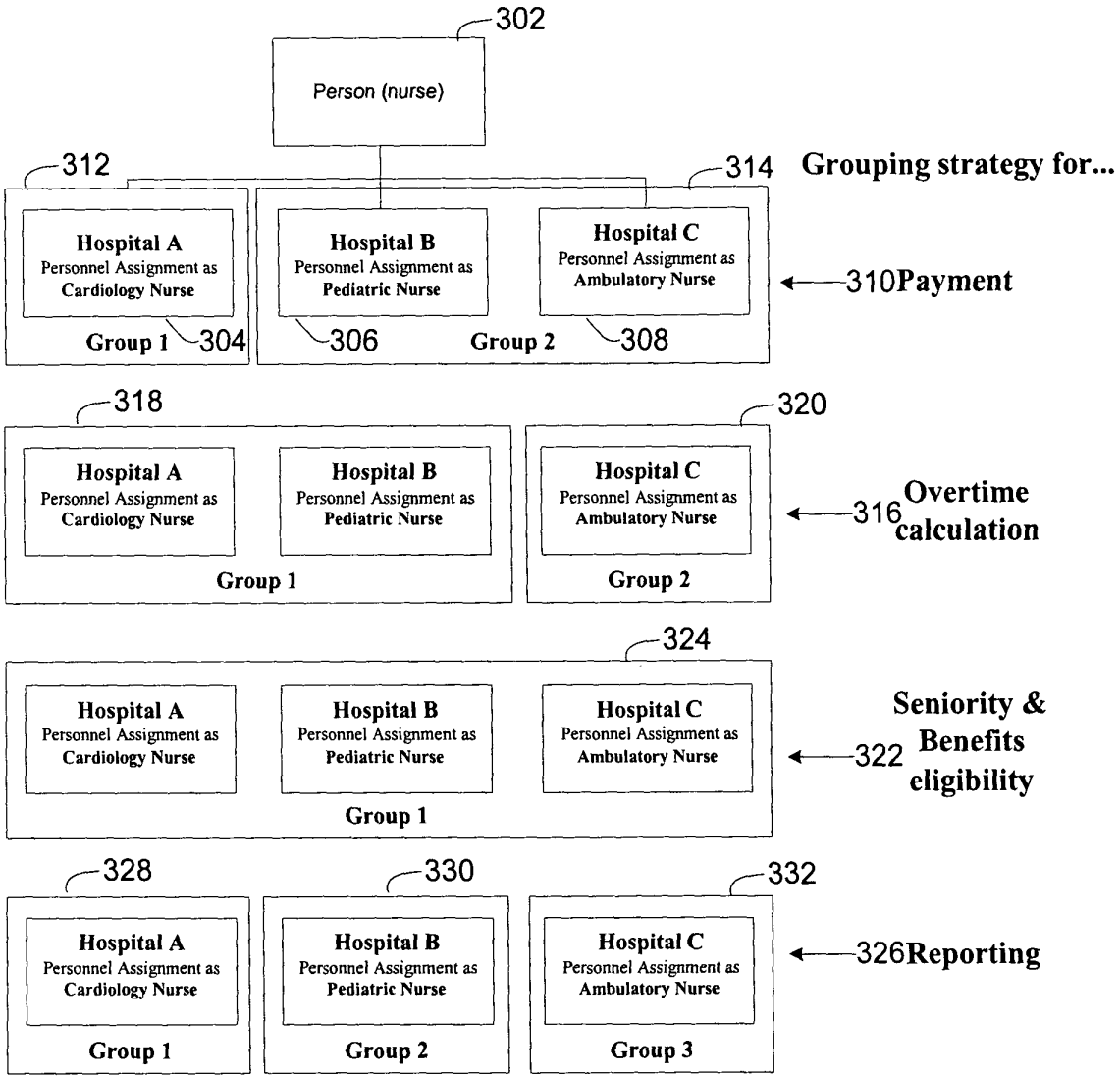
302
Person (nurse)
312
314
Grouping strategy for...
Hospital A
Personnel Assignment as
Cardiology Nurse
Hospital B
Personnel Assignment as
Pediatric Nurse
Hospital C
Personnel Assignment as
Ambulatory Nurse
310 Payment
Group 1
304
306
Group 2
308
318
320
Hospital A
Personnel Assignment as
Cardiology Nurse
Hospital B
Personnel Assignment as
Pediatric Nurse
Hospital C
Personnel Assignment as
Ambulatory Nurse
316 Overtime calculation
Group 1
Group 2
324
Hospital A
Personnel Assignment as
Cardiology Nurse
Hospital B
Personnel Assignment as
Pediatric Nurse
Hospital C
Personnel Assignment as
Ambulatory Nurse
322 Seniority & Benefits eligibility
Group 1
328
330
332
Hospital A
Personnel Assignment as
Cardiology Nurse
Hospital B
Personnel Assignment as
Pediatric Nurse
Hospital C
Personnel Assignment as
Ambulatory Nurse
326 Reporting
Group 1
Group 2
Group 3

FIG. 3

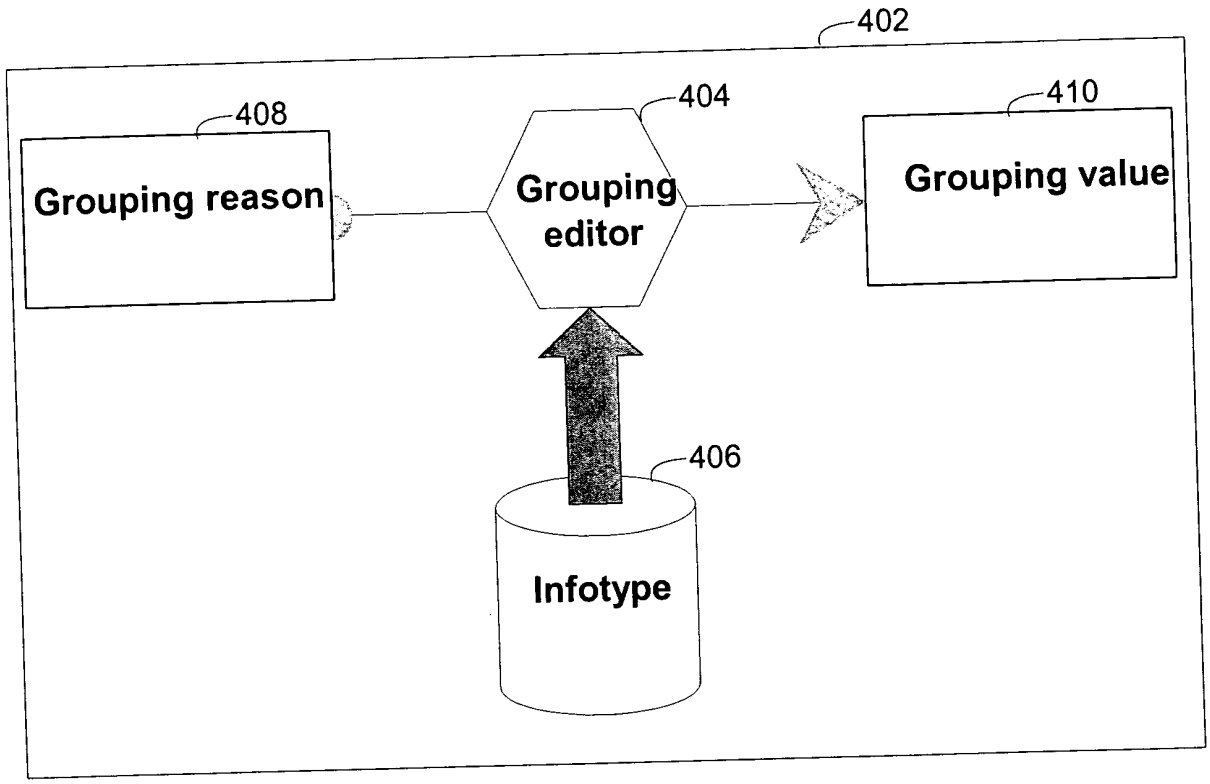
402
408
Grouping reason
404
Grouping editor
410
Grouping value
406
Infotype

FIG. 4

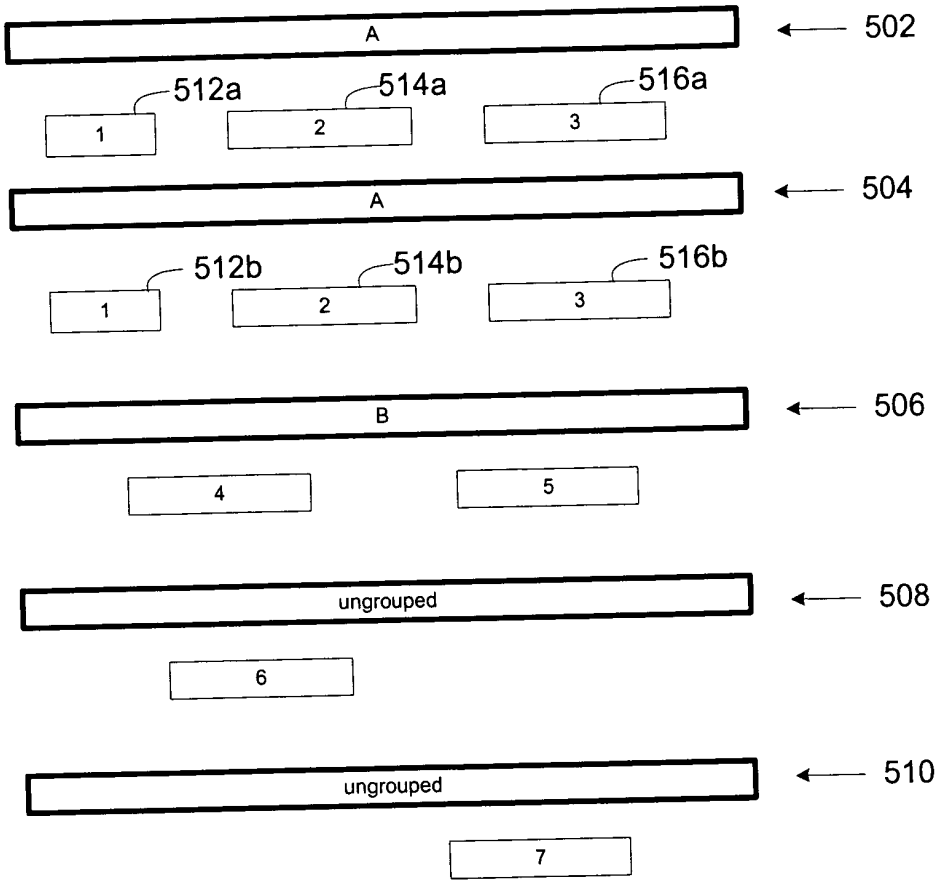
A
502
512a
514a
516a
1
2
3
A
504
512b
514b
516b
1
2
3
B
506
4
5
ungrouped
508
6
ungrouped
510
7

FIG. 5

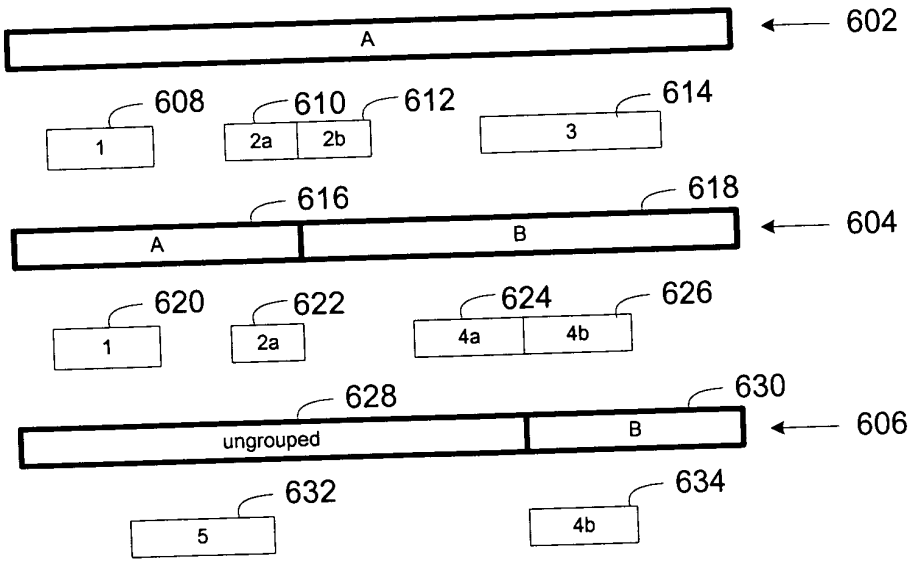
602
A
608
610
612
614
1
2a
2b
3
616
618
604
A
B
620
622
624
626
1
2a
4a
4b
628
630
606
ungrouped
B
632
634
5
4b

FIG. 6

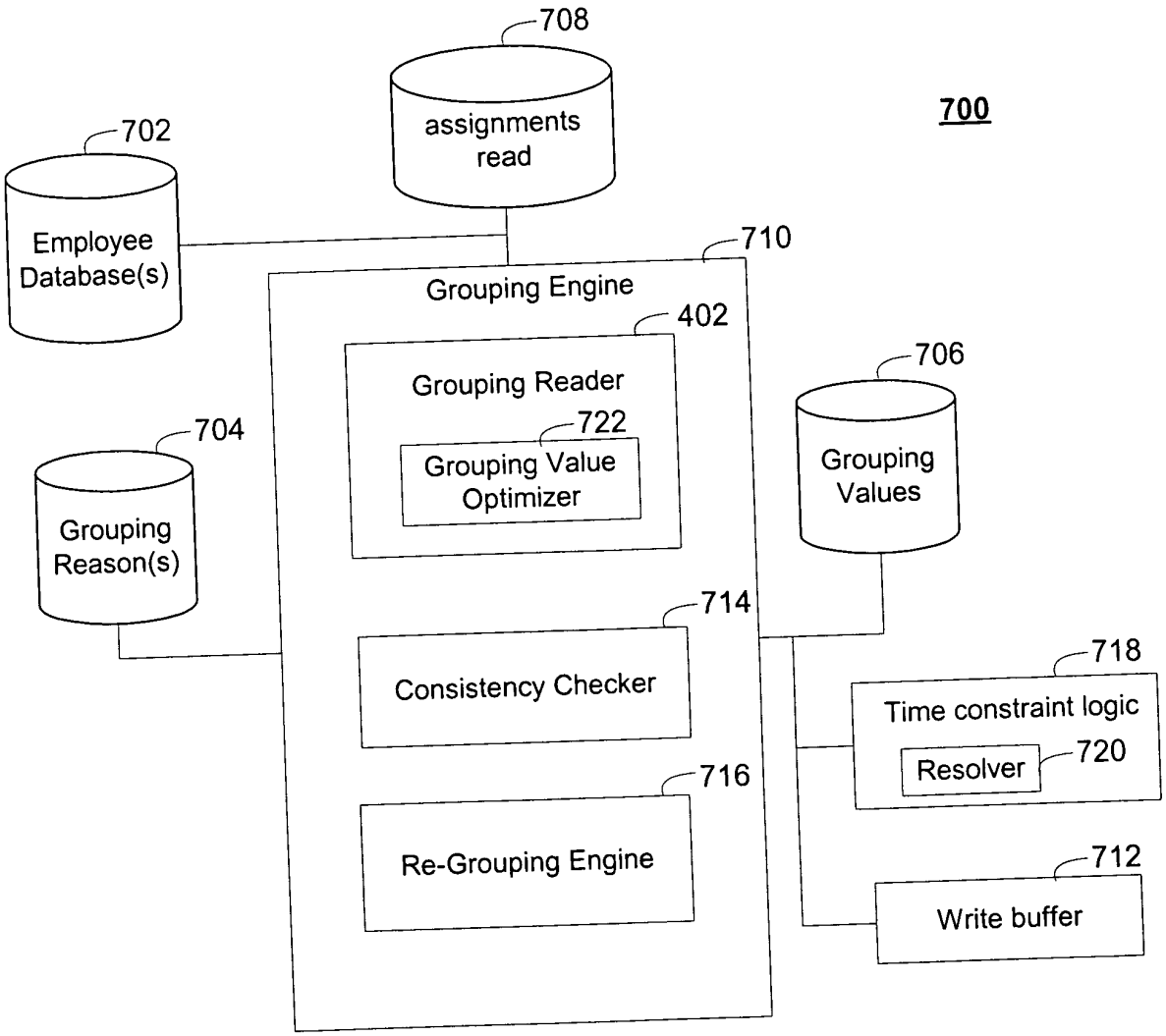
700
708
assignments read
702
Employee Database(s)
710
Grouping Engine
402
Grouping Reader
722
Grouping Value Optimizer
706
Grouping Values
704
Grouping Reason(s)
714
Consistency Checker
718
Time constraint logic
Resolver
720
716
Re-Grouping Engine
712
Write buffer

FIG. 7

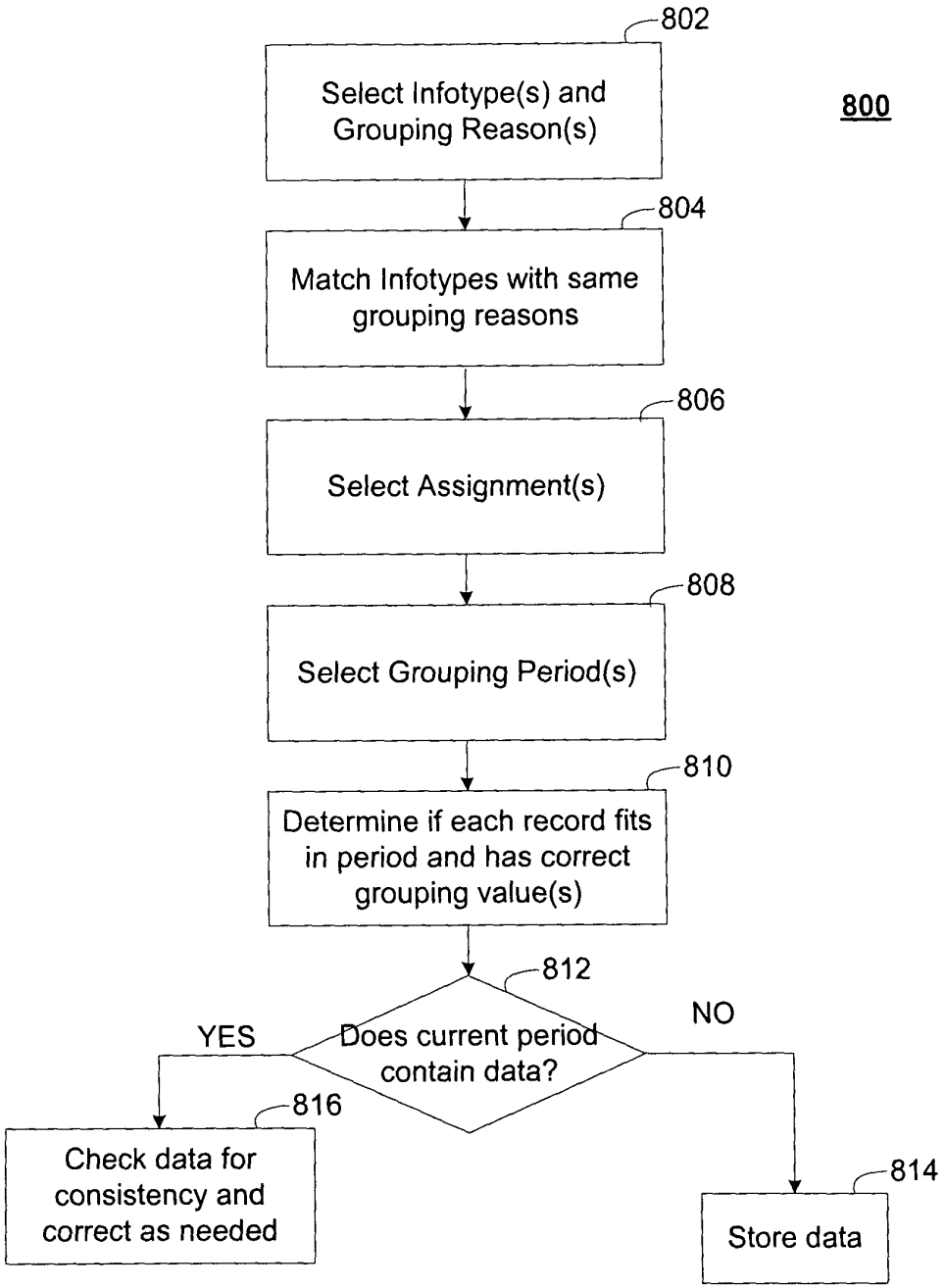
800
802
Select Infotype(s) and Grouping Reason(s)
804
Match Infotypes with same grouping reasons
806
Select Assignment(s)
808
Select Grouping Period(s)
810
Determine if each record fits in period and has correct grouping value(s)
812
Does current period contain data?
YES
NO
816
Check data for consistency and correct as needed
814
Store data

FIG. 8

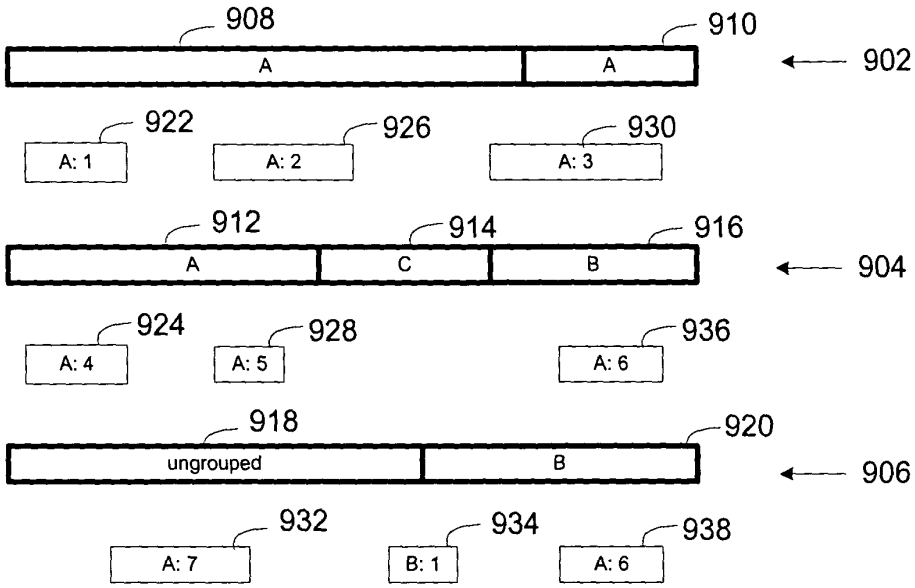
908
910
A
A
902
922
926
930
A: 1
A: 2
A: 3
912
914
916
A
C
B
904
924
928
936
A: 4
A: 5
A: 6
918
920
ungrouped
B
906
932
934
938
A: 7
B: 1
A: 6

FIG. 9

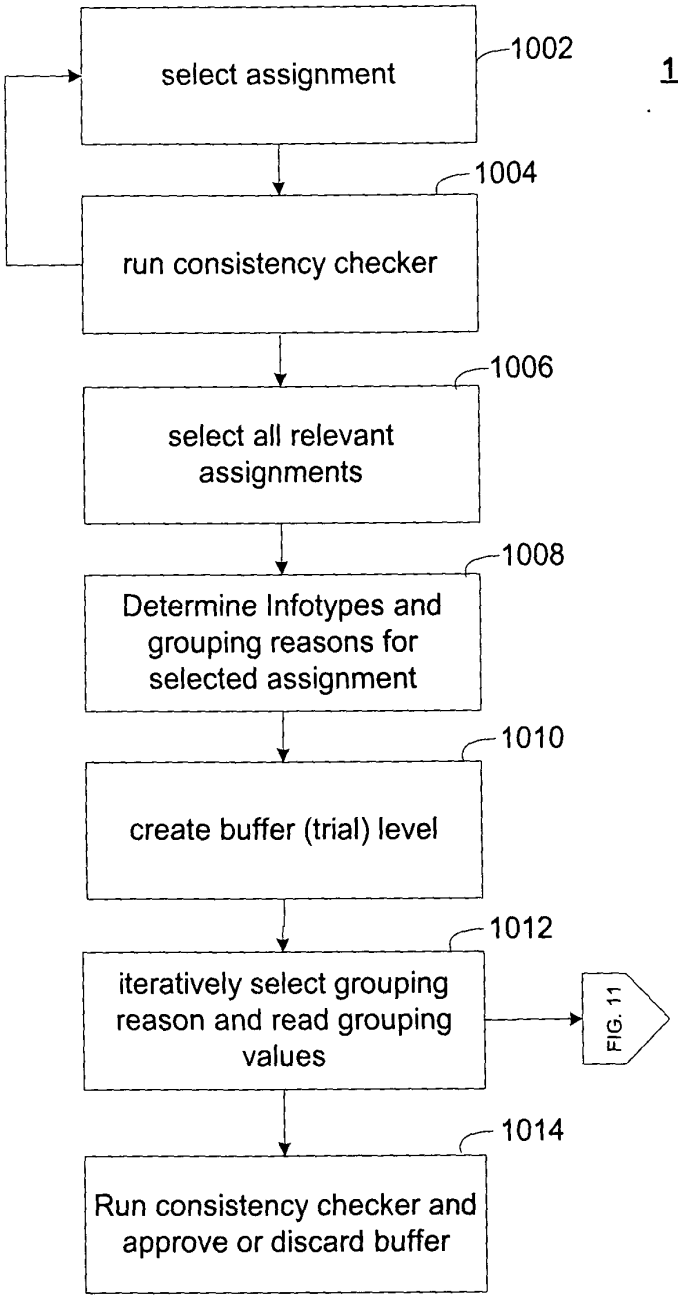
1000
select assignment
1002
run consistency checker
1004
select all relevant assignments
1006
Determine Infotypes and grouping reasons for selected assignment
1008
create buffer (trial) level
1010
iteratively select grouping reason and read grouping values
1012
FIG. 11
Run consistency checker and approve or discard buffer
1014

FIG. 10

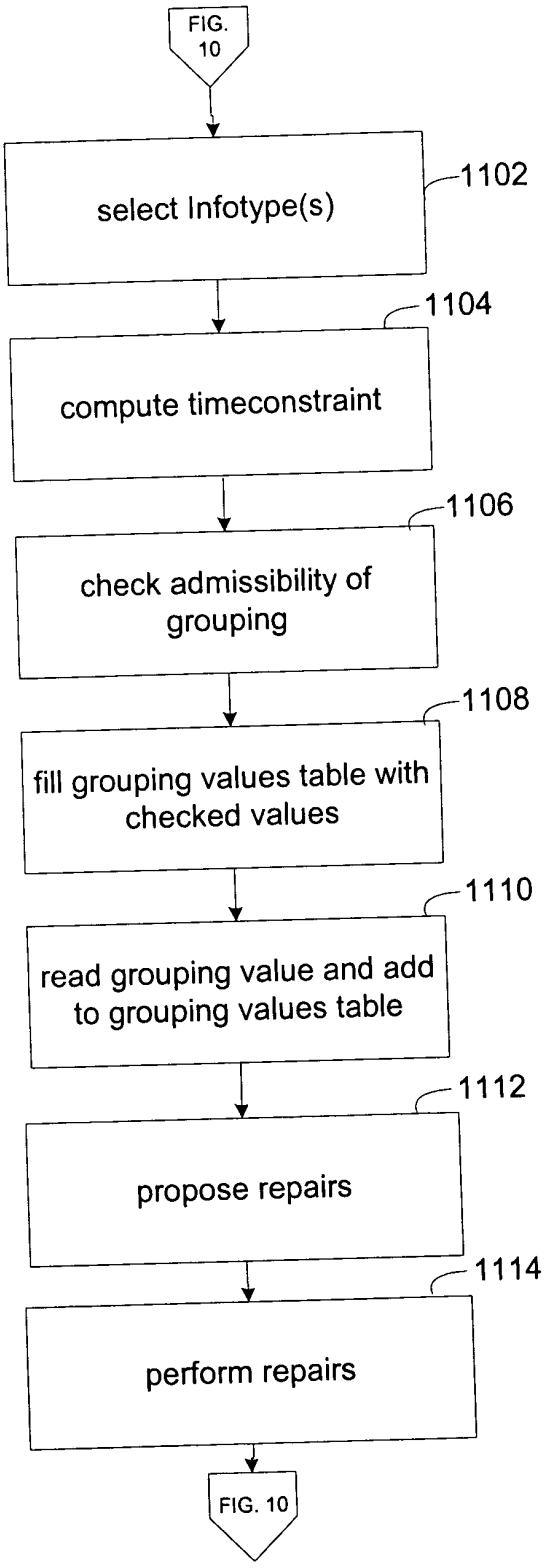
FIG. 10
select Infotype(s)
1102
1100
1104
compute timeconstraint
1106
check admissibility of grouping
1108
fill grouping values table with checked values
1110
read grouping value and add to grouping values table
1112
propose repairs
1114
perform repairs
FIG. 10

FIG. 11

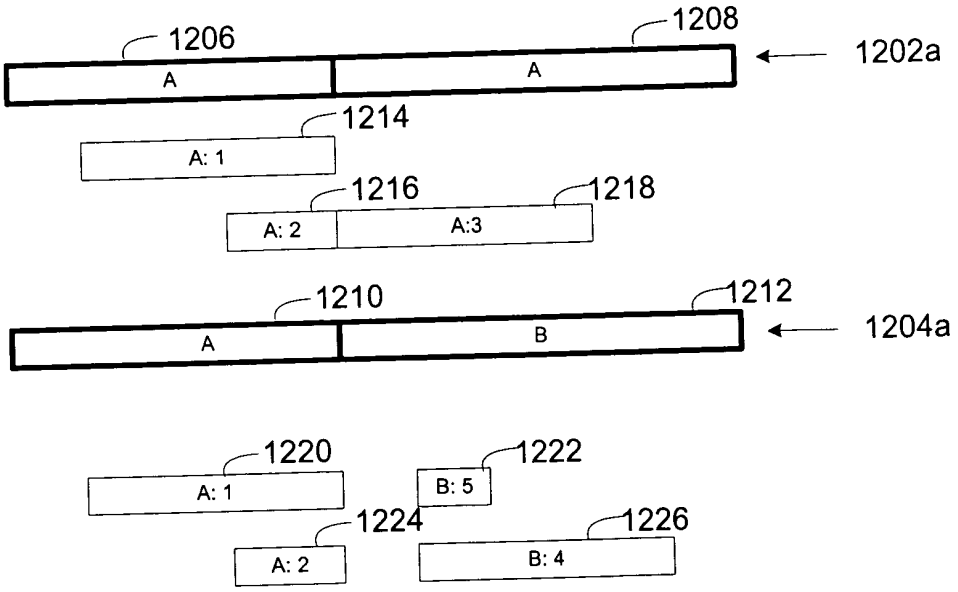

FIG. 12A

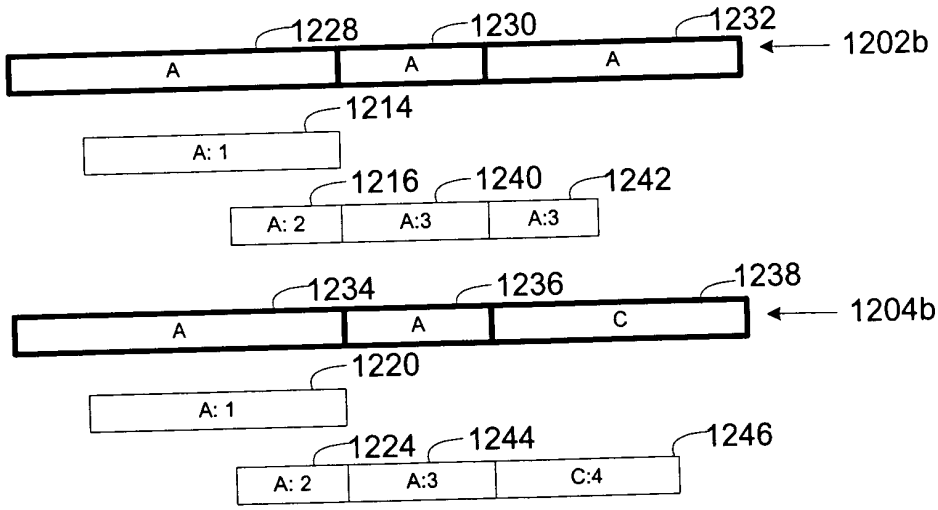

FIG. 12B

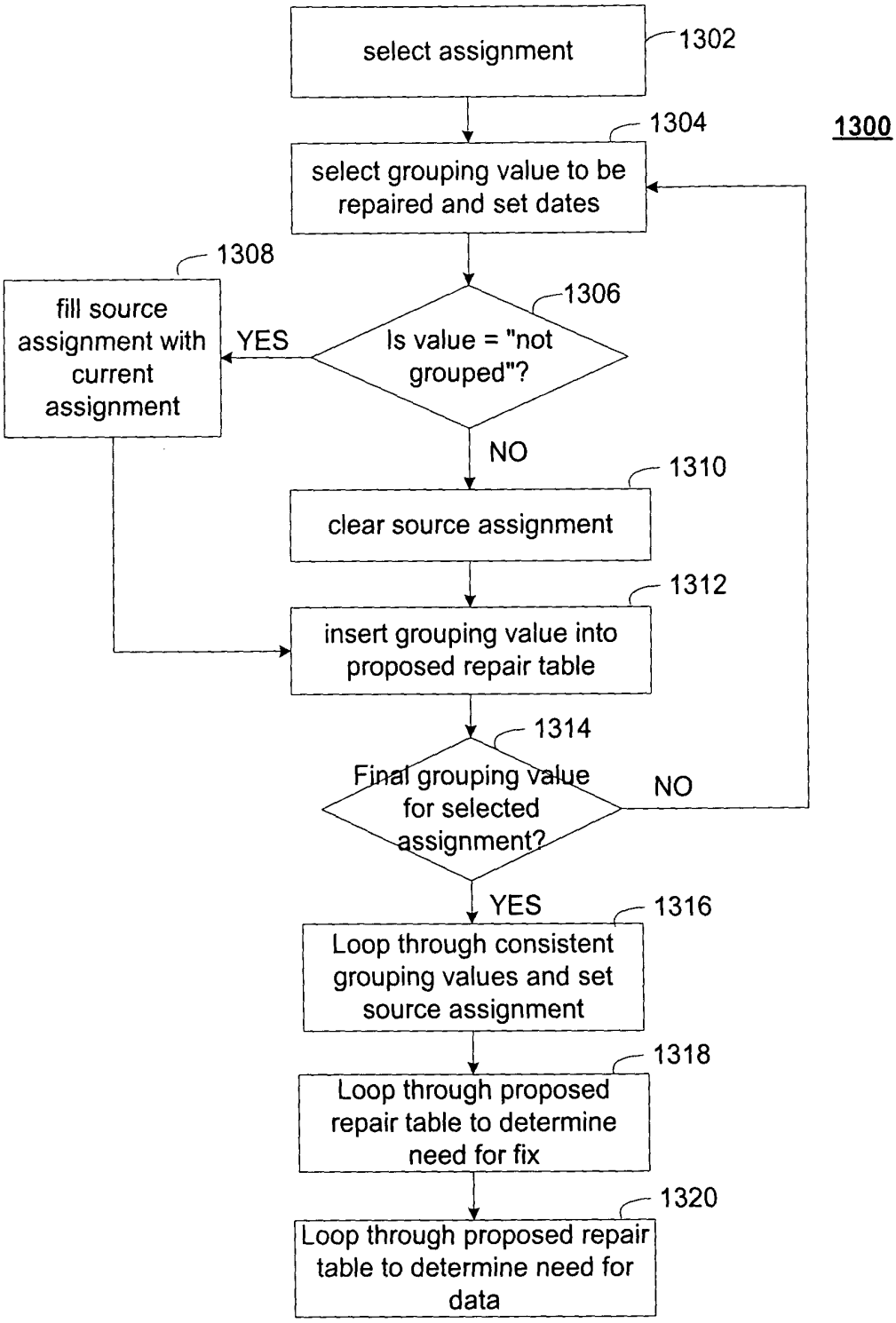
1300
select assignment
1302
1304
select grouping value to be repaired and set dates
1308
fill source assignment with current assignment
YES
1306
Is value = "not grouped"?
NO
1310
clear source assignment
1312
insert grouping value into proposed repair table
1314
Final grouping value for selected assignment?
NO
YES
1316
Loop through consistent grouping values and set source assignment
1318
Loop through proposed repair table to determine need for fix
1320
Loop through proposed repair table to determine need for data

FIG. 13

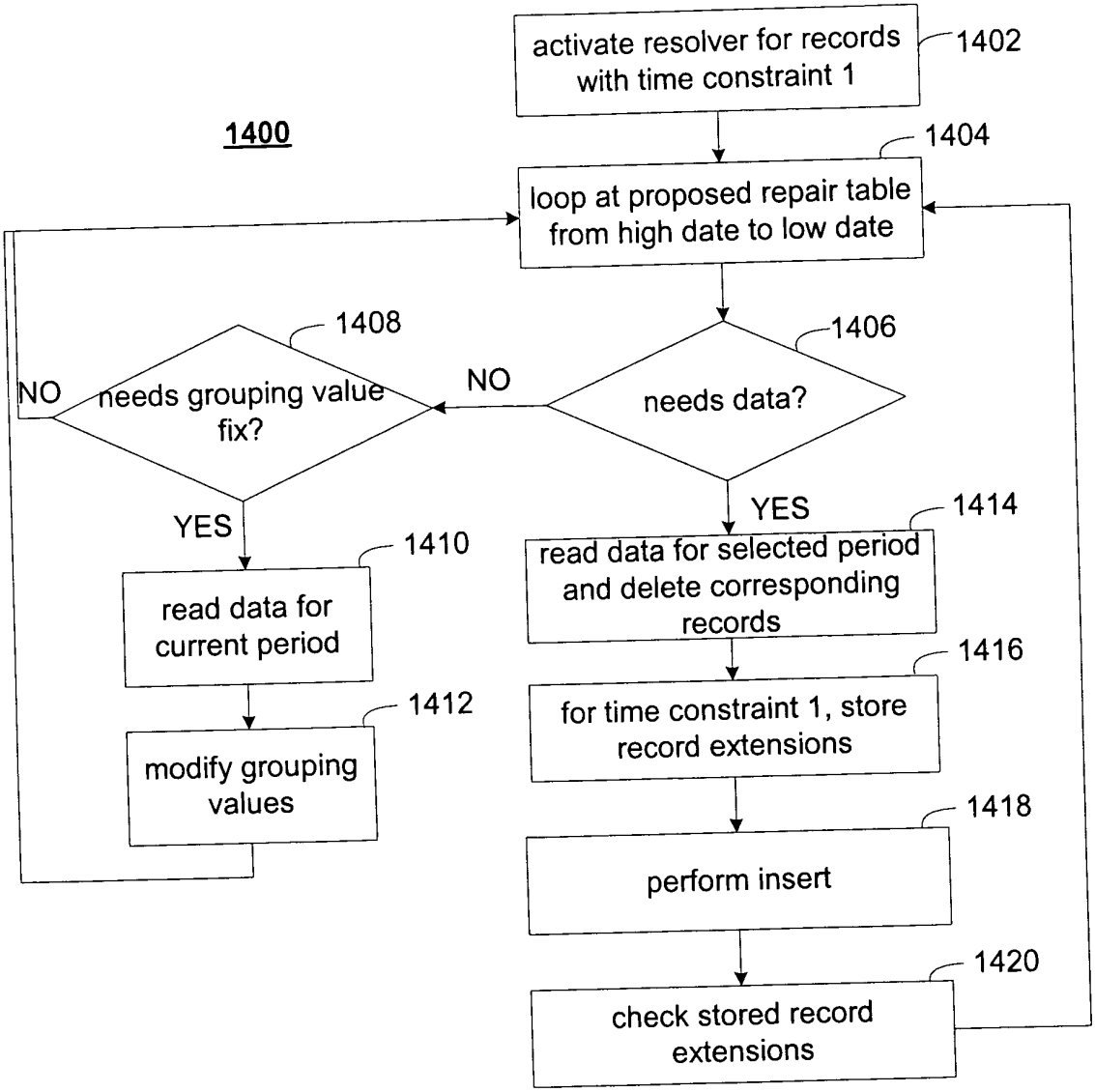
1400
activate resolver for records with time constraint 1
1402
1404
loop at proposed repair table from high date to low date
1406
needs data?
NO
1408
needs grouping value fix?
NO
YES
1410
read data for current period
1412
modify grouping values
YES
1414
read data for selected period and delete corresponding records
1416
for time constraint 1, store record extensions
1418
perform insert
1420
check stored record extensions

FIG. 14

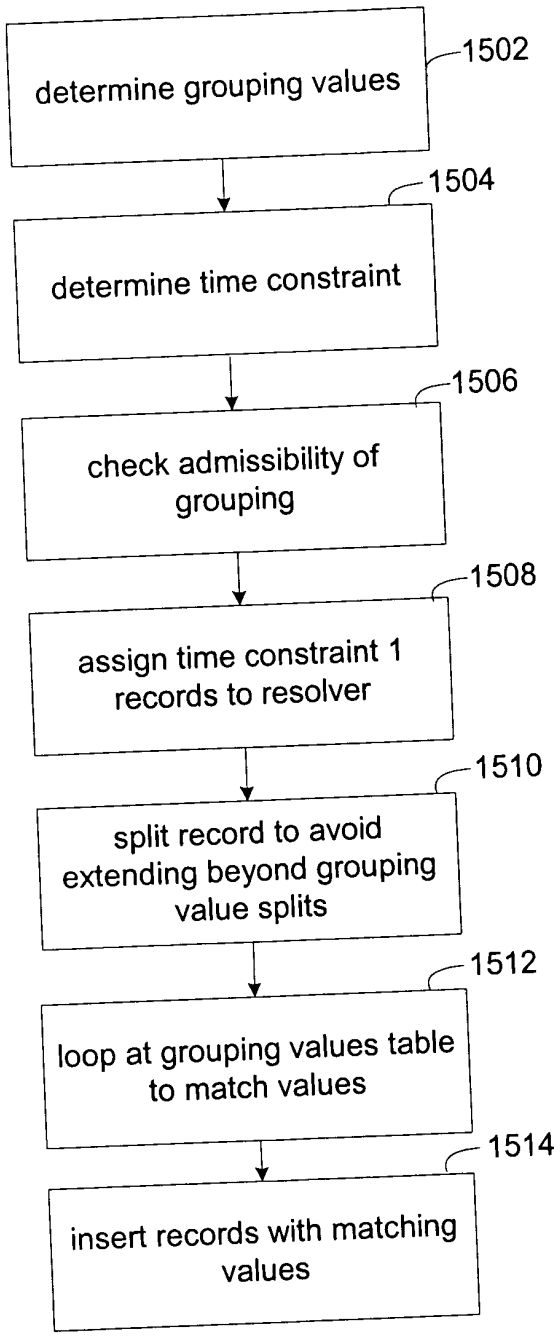
1500
determine grouping values
1502
determine time constraint
1504
check admissibility of grouping
1506
assign time constraint 1 records to resolver
1508
split record to avoid extending beyond grouping value splits
1510
loop at grouping values table to match values
1512
insert records with matching values
1514

FIG. 15

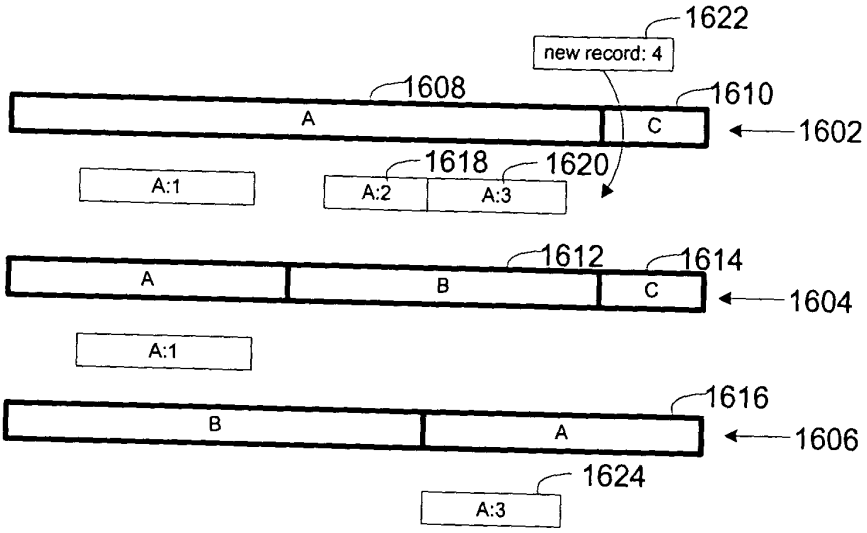

FIG. 16A

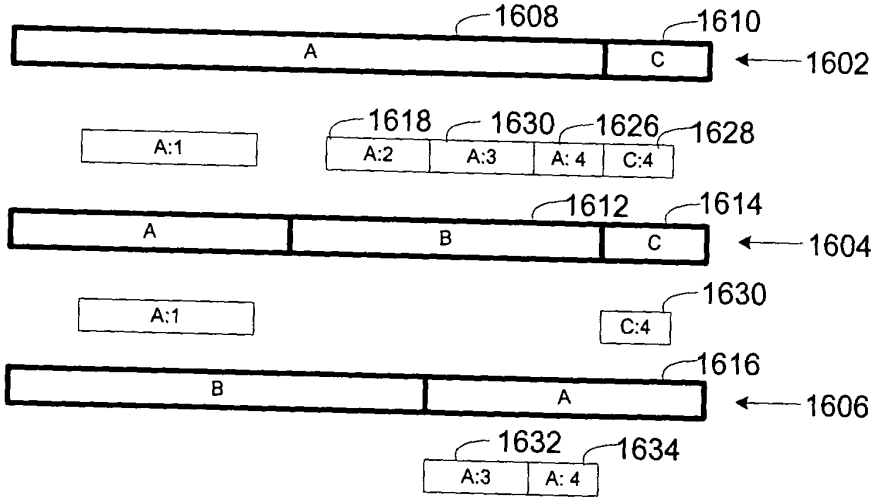

FIG. 16B

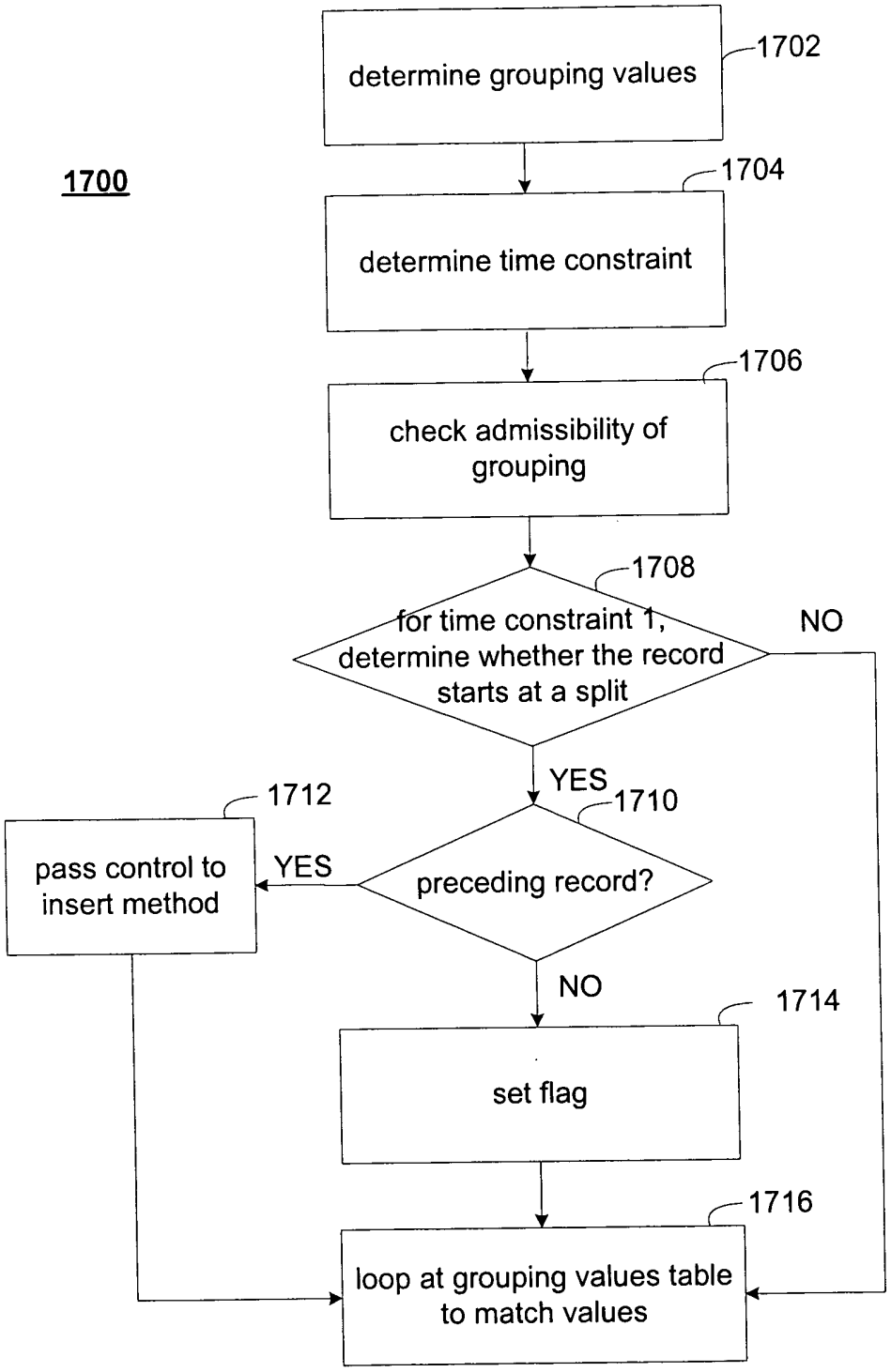
1700
determine grouping values
1702
determine time constraint
1704
check admissibility of grouping
1706
for time constraint 1, determine whether the record starts at a split
1708
NO
YES
preceding record?
1710
YES
pass control to insert method
1712
NO
set flag
1714
loop at grouping values table to match values
1716

FIG. 17

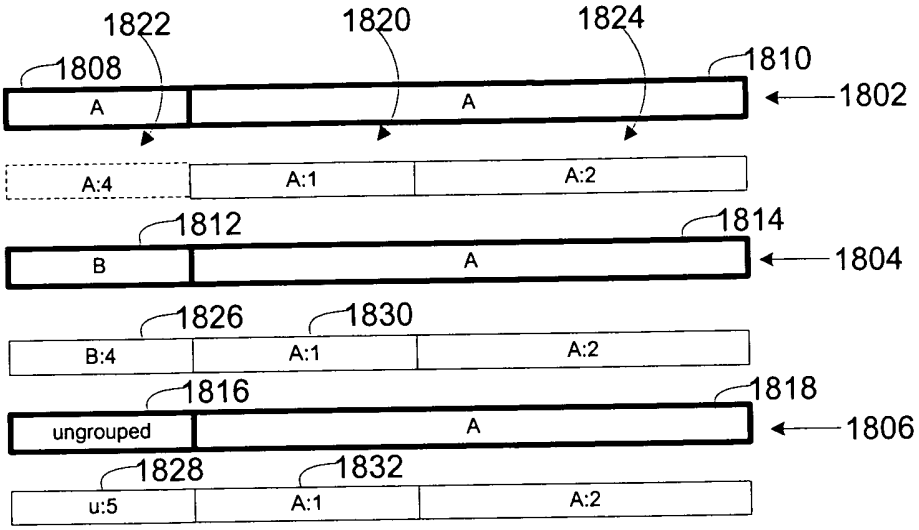

FIG. 18A

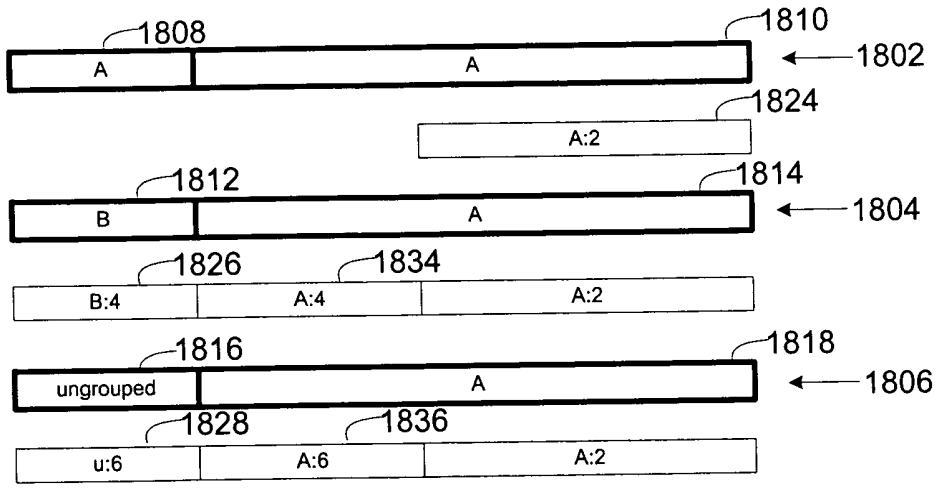

FIG. 18B

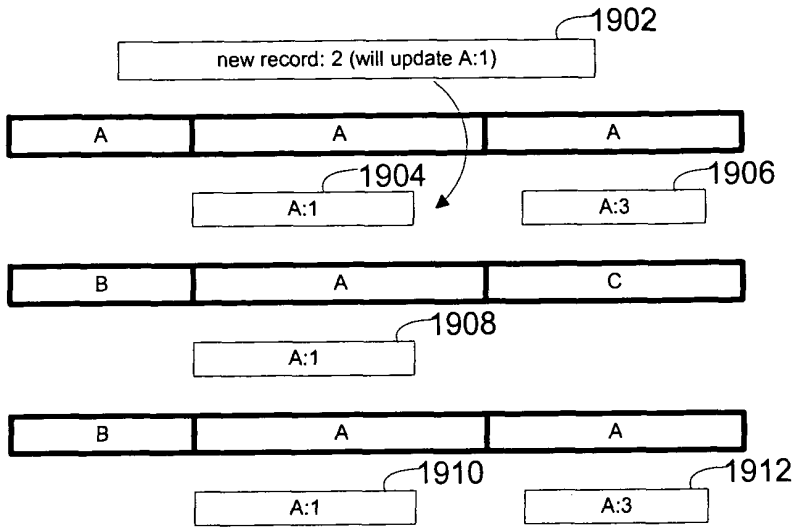

FIG. 19A

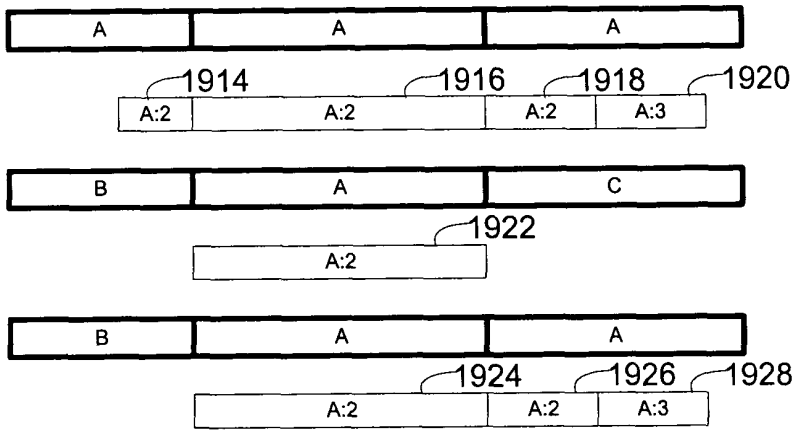

FIG. 19B

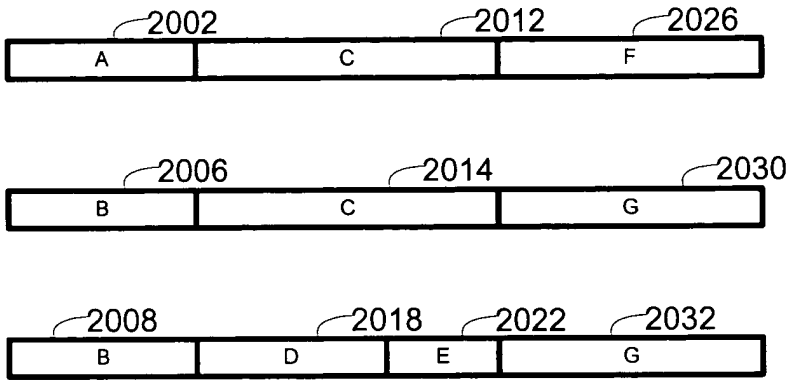

FIG. 20A

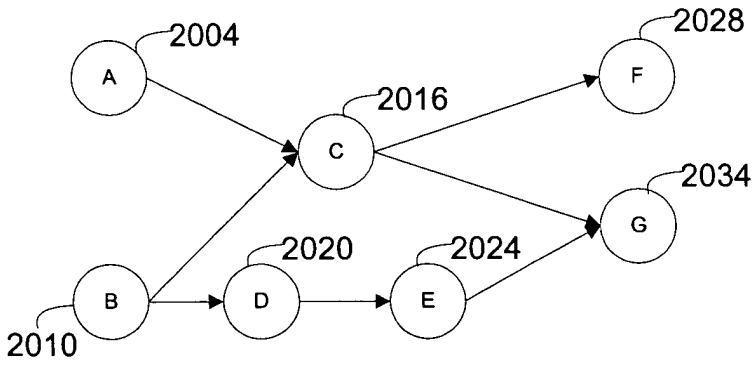

FIG. 20B

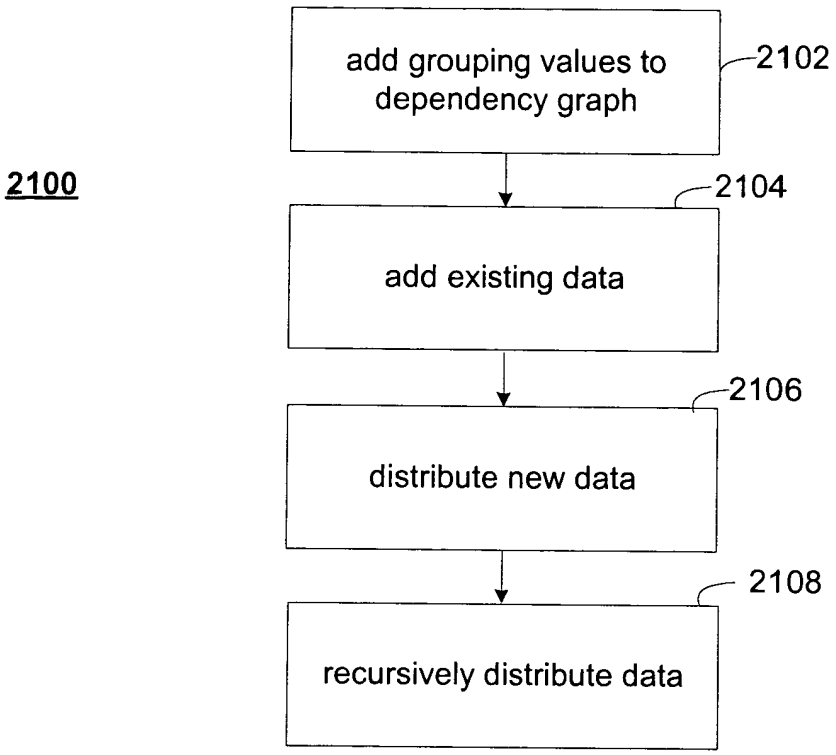
2100
add grouping values to dependency graph
2102
2104
add existing data
2106
distribute new data
2108
recursively distribute data

FIG. 21